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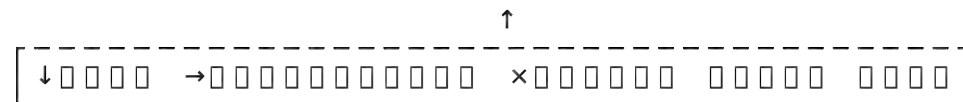
$$\downarrow \square\square\square\square \rightarrow \square\square\square\square\square\square\square\square\square\square \times \square\square\square\square\square\square \square\square\square\square \square\square\square\square$$

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The diagram shows a horizontal register with 16 bits, represented by a dashed line. An upward arrow points to the 8th bit from the left. Below the register, a sequence of operations is shown: a downward arrow points to the first bit, followed by a rightward arrow pointing to the 4th bit. This is followed by a multiplication symbol 'x' and a sequence of four groups of four bits each, representing the shifted data.

The diagram shows a horizontal register with a dashed top line. Below the line, on the left, is a 4-bit input labeled '↓' followed by four boxes. An arrow points from this input to a 12-bit output section, which is labeled '→' followed by twelve boxes. To the right of the 12-bit output is a 4-bit carry-out section, labeled '×' followed by four boxes. An upward arrow points to the top of the register line, indicating a carry-in.



18

	18			↓		5			24 4
	18			↓		5			24 4
	18			↓		5			24 4
	18 19			→		1			
	17 18			↓		1			20 4
	18 19			→		1			
	15 18			↓		1			20 4
	16 19			→		1			
	17 20			→		1			
	18 21			→		1			
	16			→		5			
	17			→		5			
	18			→		5			
	17 18			↓		5			24 4
	18 19			→		5			
	16			→		1			

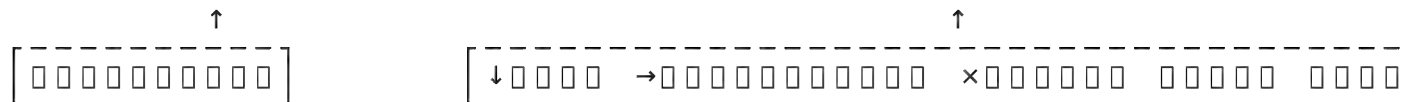
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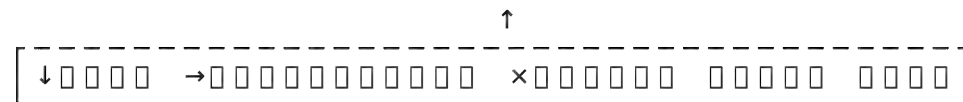
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The diagram shows a 16-bit register represented as a horizontal bar divided into four 4-bit sections. The first section contains the value 0001. An arrow labeled '←' points to the left, indicating a left shift operation. The second section contains the value 0000, the third contains 0000, and the fourth contains 0001. Above the register, an upward-pointing arrow is positioned over the third section, and a dashed line extends from the top of the register across the entire width.





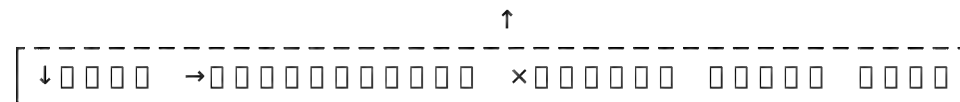
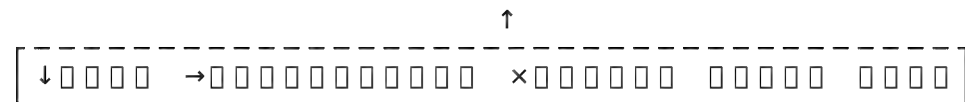
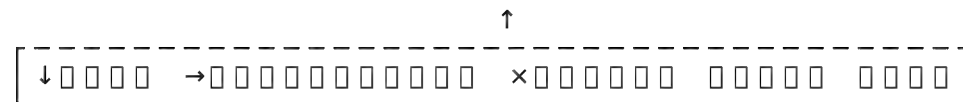
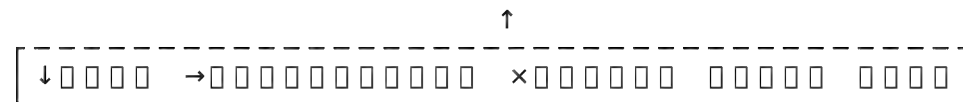
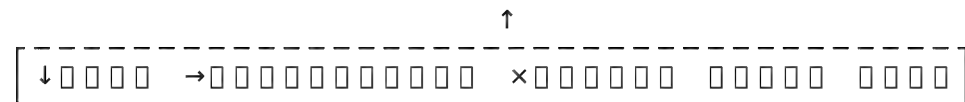


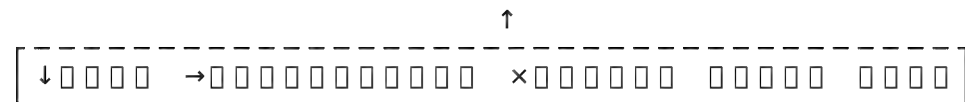
Diagram illustrating the structure of a 16-bit register (labeled 16 bits) divided into four 4-bit segments. The segments are labeled with arrows indicating bit flow: \downarrow (downward), \rightarrow (rightward), \times (multiplication), and \rightarrow (rightward). The segments are separated by dashed lines.











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	□	14□	□□□□□□□□□□□□□□□□	→		5				
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		18	□□□□□□□□□□□□□□	↓		3			22□	4□
		18	□□□□□□□□□□□□□□□□□□	↓		3			22□	4□
		15□ 18	□□□□□□□□□□□□□□□□□□	↓		5			24□	4□
	□	16□ 19	□□□□□□□□□□□□□□□□□□	→		5				
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	□	17□ 20	□□□□□□□□□□□□□□□□□□	→		5				
		15□ 18	□□□□□□□□□□□□□□□□□□	↓		5			24□	4□
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The diagram shows a horizontal register with a dashed top line and a solid bottom line. Above the register, an upward arrow points to the 12th bit position. Inside the register, a downward arrow points to the 1st bit position. The register is divided into three sections: a 4-bit input section (bits 1-4) followed by a right-pointing arrow, a 12-bit output section (bits 5-16) followed by an 'x' symbol, and a 4-bit carry-out section (bits 17-20). The output section is further divided into three 4-bit groups by vertical lines.

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		18			↓			10	2
		18			↓			10	2
		18			↓			10	2
		18			↓			10	2
		18			↓			10	2
		18			↓			10	2
		18			↓			10	2
		15			→			1	
		18			↓			10	2
		18			↓			10	2
		18			→			1	
		18			↓			1	
		18			↓			10	2
		18			↓			1	
		11 18			↓				
		12 19			→				
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18

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	12	19		→					
	18			→	1				
	14	18		↓					
	17			→	5				
	16	18		↓	10				29 4
	17			→	1				
	15			→	1				
	18								
				→	10				
				→					
				→					
	18			↓	1				20 4
	18			↓	10				29 4
	18			↓	10				29 4
	18			↓	10				29 4
	18			→	5				
	15			→	1				
	16			→	1				
	18			→	1				

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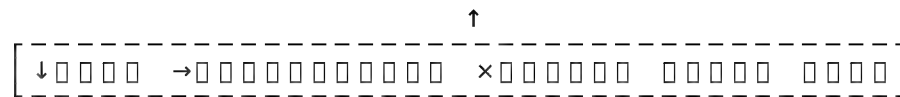
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		18		→		1			
		18		↓		5			
		18		↓		10			29 4
		18		↓		1			20 4
		17 18		↓		1			20 4
		17 18		↓		1			20 4
		18 19		→		1			
		18 19		→		1			
		18 19		→		10			
		18 19		→		10			
		17 18		↓		10			29 4
		17 18		↓		10			29 4
				→		10			
		18		↓		10			29 4
		18		↓		10			29 4
		18		↓		10			29 4
		18		↓		10			29 4
		18		↓		10			29 4
		18		↓		10			29 4
		18		↓		1			20 4

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		18			↓				
		18			↓	3		22 4	
		18			↓	3		22 4	
		18			↓	3		22 4	
		18			↓	5		24 4	
		18			↓	5		24 4	
		18			↓	3		22 4	
		18			↓	1		20 4	
		12			→				
		18			↓	5		24 4	
		18			↓	3		22 4	
		18			↓	3		22 4	
		18			↓	1		20 4	
		18			↓	3		22 4	
		18			↓	3		22 4	
		18			↓	3		22 4	

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18

		18		↓		1			20 4
		18		↓		1			20 4
		18		↓		3			22 4
		18		↓		3			22 4
		18		↓		1			20 4
		18		↓		5			24 4
		18		↓		5			24 4
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			18	□□□□□□□□□□□□□□		↓			1
			18	□□□□□□□		↓			1
			18	□□□□□□□		↓			3
			18	□□□□□□		↓			1
			18	□□□□□□□□□□□□		↓			3
			18	□□□□□□□□□□□□□□		↓			1
			18	□□□□□□□□□□□□□□		↓			1
			18	□□□□□□□□□□□□□□□□		↓			3
			18	□□□□□□□		↓			1
			18	□□□□□□□□□□□□		↓			1
			18	□□□□□□□□□□□□□□□□		↓			3
			18	□□□□□□□□□□□□		↓			3
			18	□□□□□□□□□□		↓			3
			18	□□□□□□□□□□□□		↓			1
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A horizontal dashed line represents a 1D lattice. Above the line, an upward-pointing arrow is positioned above the center. Below the line, a downward-pointing arrow is positioned at the left end. The lattice is divided into three sections by the center arrow. The left section contains a rightward-pointing arrow followed by eight small squares. The center section contains a multiplication sign followed by eight small squares. The right section contains eight small squares. The squares are arranged in a regular grid pattern.

0000000000	000000000000								
000000000000	00	00	00000000	00	0000000000	00	00	0000	0000
000000000000		18	00000000000000	↓		1			2 4
		18	000000000000000000	↓		1			2 4
		18	000000000000000000	→					
		18	000000000000000000	→					
		18	00000000000000	↓	0000	3			#/VALUE!
		18	00000000	↓	0000	3			#/VALUE!
		18	0000000000000000	↓	0000	1			#/VALUE!
		18	00000000000000	↓	0000	3			#/VALUE!
		18	00000000000000000000	↓	0000	3			#/VALUE!
		18	0000000000000000	↓	0000	1			#/VALUE!
		18	000000000000000000000000	↓		3			#/VALUE!
		18	000000000000000000000000	↓		1			#/VALUE!
		18	00000000000000000000	→					
		18	0000000000000000000000	↓		3			#/VALUE!
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		18	000000	↓		3			#/VALUE!
0000000000		18	0000000000	↓		5	3		#/VALUE!
		18	00000000000000000000	↓		5	3		#/VALUE!

A diagram of a 1D lattice with 10 sites. An arrow points to the 6th site from the left, which is the central site.

18

6

	18			↓					
	18			↓	3			22	4
	18			↓	5	3		24	4
	18			↓	5	3		24	4
	18			↓	5	4		24	4
	18			↓	5	4		24	4
	18			↓	5	4		24	4
	18			↓	5	4		24	4
	18			↓	5	4		24	4
	18			↓	5	4		24	4
	18			↓					
	18			↓					
	18			↓	1				
	18			↓	5	4		24	4
	18			↓	3			22	4
	18			↓	5	4		24	4
	18			↓	5	4		24	4
	18			↓	5	4		24	4
	18			↓	5	4		24	4

↑

↑

18

		18						5	4		24 4
		18						1			20 4
		14						5			
		17						5			
		18						3			22 4
		18						3			22 4
		18						3			22 4
		18						10			29 4
		18						1			
		18						1			20 4
		18						1			20 4
		18						1			20 4
		18						1			20 4
		17 18						1			
		17 18						3			
		17 18						1			
		17 18						1			

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[↓ → ×]

18

	17	18	19						
	18	19							
	18	19	19						
	18	19							
	18	19							
	18								
	18								
	18								
	18								
	10								
	17								
	18								24 4
	18								24 4
	9								
	12								
	13	16							
	9								
	18								20 4
	17								
	17								
	17								

A horizontal dashed line represents a 1D lattice. Above the line, an upward-pointing arrow is positioned above the center. Below the line, a downward-pointing arrow is positioned at the left end. The lattice is divided into three sections by the center: a left section with four squares, a central section with four squares, and a right section with four squares. The first square in the left section contains a right-pointing arrow. The first square in the central section contains a multiplication sign (×). The squares in the right section are empty.

18

6

6

6

6

	18			↓	5	5		24	4
	18			↓	5	5		24	4
	18			↓	5	5		24	4
	18			↓	5	5		24	4
	14			→	5	5			
	14			→	5	5			
	14			→	5	5			
	14			→	5	5			
				→	5	5			
	18			↓	1			20	4
	18			↓	1			20	4

↑

↑

A diagram of a 1D lattice represented by a horizontal dashed line. Above the line, an upward-pointing arrow is positioned above the center. Below the line, a downward-pointing arrow is positioned at the far left. The lattice is divided into three sections by the central upward arrow. The left section contains a rightward-pointing arrow followed by eight small squares. The middle section contains a multiplication sign followed by eight small squares. The right section contains two groups of four small squares each, separated by a space. All small squares are empty.

A diagram of a 1D lattice represented by a horizontal dashed line. Above the line, an upward-pointing arrow is positioned above the center. Below the line, a downward-pointing arrow is positioned at the far left. The lattice is divided into three sections by the central upward arrow. The left section contains a rightward-pointing arrow followed by eight small squares. The middle section contains a multiplication sign followed by eight small squares. The right section contains two groups of four small squares each, separated by a space. All small squares are empty.

18

7

	18			↓		3	1			22	4
	18			↓		3	2			22	4
	18			↓		3	2			22	4
	18			↓		3	2			22	4
	18			↓		3	2			22	4
	17			→		1					
	18			↓		3	2			22	4
	18			↓		1				20	4
	17	18		→		1					
	18	19		→		3					
	18			↓		1				20	4
	18	19		↓		1				20	4
	16			→		1					
	18			↓		3				22	4
	18			↓		1				20	4
	18			↓		3				22	4

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A diagram of a 1D lattice represented by a horizontal dashed line. Above the line, an upward-pointing arrow is positioned above the center. Below the line, a downward-pointing arrow is positioned at the far left. The lattice is divided into three sections by the central upward arrow. The left section contains a rightward-pointing arrow followed by eight small squares. The middle section contains a multiplication sign followed by eight small squares. The right section contains two groups of four small squares each, separated by a space. All small squares are empty.

[illegible]

A diagram of a 1D lattice with 10 sites. An arrow points to the 6th site from the left, which is the central site.

A horizontal dashed line represents a 1D lattice. Above the line, an upward-pointing arrow is positioned above the center. Below the line, a downward-pointing arrow is positioned at the left end. The lattice is divided into three sections by the center arrow. The left section contains a rightward-pointing arrow followed by eight small squares. The center section contains a multiplication sign followed by eight small squares. The right section contains two groups of four small squares each, separated by a gap.

A horizontal dashed line represents a 1D lattice with 16 sites. Above the line, an upward-pointing arrow is positioned above the 10th site from the left. The 10th site is also labeled with a circled '10'.

18

8

	18				1				20 4
	18				1				20 4
	18				5				24 4
	18				1				20 4
	18				1				20 4
	18				1				20 4
	18				5				24 4
	18				3				22 4
	18				1				20 4
	18				3				22 4
	18				1				20 4
	18				3				22 4
	18				1				20 4
	18				1				20 4
	18				1				20 4
	18				1				20 4
	18				1				20 4

↑
[]

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[↓ → ×]

A diagram of a 1D lattice represented by a horizontal dashed line. Above the line, an upward-pointing arrow is positioned above the center. Below the line, a downward-pointing arrow is positioned at the far left. The lattice is divided into three sections by the central upward arrow. The left section contains a rightward-pointing arrow followed by eight small squares. The middle section contains a multiplication sign followed by eight small squares. The right section contains two groups of four small squares each, separated by a space. All small squares are empty.

18

10

	18			↓		1			20 4
	18			↓		1			20 4
	18			↓		1			20 4
				↓		5			24 4
				↓		1			20 4
				↓		1			20 4
				↓		1			20 4
	16			↓		1			20 4
				↓		1			20 4
				↓		5			24 4
				↓		5			24 4
				→		1			
				→		1			
	17			→		1			
	17			→		1			
	14			→		1			
	15			→		1			
	15			→		1			

↑
[]

↑
[↓ → ×]

18

10

		18				→		1			
		18				→		1			
		18				→		1			
		18				↓		1			20 4
		18				↓		3			22 4
						↓		3			22 4
						↓		1			20 4
						↓		1			20 4
		18				↓		1			20 4
		18				↓		1			20 4
		18				↓		1			20 4
		18				↓		1			20 4
		18				↓		1			20 4
		18				↓		3	2		22 4
		18				↓		1			20 4
		18				↓		1			20 4

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18

10

	18										
	18										
	18										
	16										
	16										
	16										
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	18										
	18										
	18										
	14										
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	18										
	18										

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18

11

		18		↓	3			22	4
		18		↓	3			22	4
		18		↓	3			22	4
		18		↓	3			22	4
		18		↓	3			22	4
		18		↓	1			20	4
		18		↓	1			20	4
		18		↓	1			20	4
		18		↓	1			20	4
		18		↓	5			24	4
		13		→	1				
		18		↓	1			20	4
		18		↓	1			20	4
		18		↓	1			20	4
		18		↓	1			20	4
		18		↓	3			22	4
		18		↓	1			20	4

↑
[]

↑
[↓ ×]

18

11

		18		↓		1			20 4
		18		↓		1			20 4
		18		↓		1			20 4
		18		↓		3			22 4
		18		↓		1			20 4
		12		→		1			
		18		↓		1			20 4
		18		↓		5			24 4
		18		↓		1			20 4
		18		↓		1			20 4
		18		↓		1			20 4
		18		↓		3			22 4
		18		↓		1			20 4

↑
[]

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[↓ → ×]

Diagram illustrating a 1D lattice with a defect at the center. The lattice is represented by a horizontal line with a dashed line above it. A vertical arrow points up from the center of the lattice. The lattice is divided into two halves by the center. The left half contains a downward arrow and a rightward arrow. The right half contains a multiplication sign and a rightward arrow. The lattice is composed of 16 sites, with 8 sites on each half.

A horizontal dashed line represents a 1D lattice. Above the line, an upward-pointing arrow is positioned above the center. Below the line, a downward-pointing arrow is positioned at the left end. The lattice is divided into three sections by the center arrow. The left section contains a rightward-pointing arrow followed by eight small squares. The center section contains a multiplication sign followed by eight small squares. The right section contains two groups of four small squares each, separated by a gap.

A diagram of a 1D lattice represented by a horizontal dashed line. Above the line, an upward-pointing arrow is positioned above the center. Below the line, a downward-pointing arrow is positioned at the far left. The lattice is divided into three sections by the central upward arrow. The left section contains a rightward-pointing arrow followed by eight small squares. The middle section contains a multiplication sign followed by eight small squares. The right section contains two groups of four small squares each, separated by a space. All small squares are empty.

Diagram illustrating a 1D array structure with 16 slots. The slots are grouped into four sets of four. The first set contains a downward arrow (↓) followed by three empty squares (□). The second set contains a rightward arrow (→) followed by three empty squares (□). The third set contains a multiplication sign (×) followed by three empty squares (□). The fourth set contains three empty squares (□). An upward arrow points to the 10th slot, which is the first multiplication sign (×).

18

13

		18		→		5					
		18		→		5					
		18		↓		1				20	4
		18	①	↓		1				20	4
		18	②	↓		1				20	4
		18	③	↓		1				20	4
		18		↓		5				24	4
		18		↓		1				20	4
		18		↓		5				24	4
		18		↓		5				24	4
		18		↓		1				20	4
		18		↓		5				24	4
		18		↓		5				24	4
		18		↓		5				24	4
		18		↓		5				24	4
		18		↓		1				20	4
		18		↓		5				24	4
		18		↓		5				24	4
		18		↓		5				24	4
		18		↓		1				20	4
		18		↓		1				20	4
		18		↓		1				20	4

↑

↑

18

13

	15			→		1			
	18			↓		3			22 4
	18			↓		5			24 4
	18			↓		1			20 4
	18			↓		1			20 4
	17			→		1			
	17			→		1			
	17			→		1			
	18			↓		1			20 4
				↓		1			20 4
				↓		3			22 4
	18			↓		1			20 4

↑
[]

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[↓ → ×]

18

13

13

13

13

	18				3	4		22	4
	18				3	4		22	4
	18				3	4		22	4
	18				3	4		22	4
	18				3	4		22	4
	18				3	4		22	4
					3			22	4
	18				1			20	4
	18				1			20	4
	18				1			20	4
	18				1				
	18				1			20	4
	18				5			24	4
	18				1			20	4
	18				1			20	4
	18				5			24	4

↑
[]

↑
[↓ → ×]

A diagram of a 1D lattice represented by a horizontal dashed line. Above the line, an upward-pointing arrow is positioned above the center. Below the line, a downward-pointing arrow is positioned at the far left. The lattice is divided into three sections by the central upward arrow. The left section contains a rightward-pointing arrow followed by eight small squares. The middle section contains a multiplication sign followed by eight small squares. The right section contains two groups of four small squares each, separated by a space. All small squares are empty.

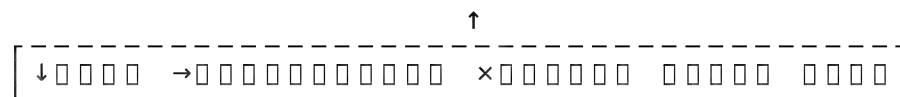
18

14

	18				5			24 4	
	18				1			20 4	
	18				5			24 4	
	18				5			24 4	
	18				1			20 4	
	18				3			22 4	
	18				5				
	18				3			22 4	
	16 18				5				
	18				1			20 4	
	18				3				
	18				1			20 4	
	18				3			22 4	
	18				1				
	18				1				
	18				3				
	18				1			20 4	
	18				3				
	18				1			#VALUE!	
	18				1			#VALUE!	
	18				1			#VALUE!	
	18				1			#VALUE!	

A horizontal dashed line represents a 1D lattice. Above the center of the line is an upward-pointing arrow labeled \uparrow . Below the line, on the left side, is a downward-pointing arrow labeled \downarrow followed by four small squares. In the center, below the line, is a rightward-pointing arrow labeled \rightarrow followed by eight small squares. To the right of the center, below the line, is a multiplication sign \times followed by four small squares. Further to the right, below the line, are two groups of four small squares each, separated by a space.

Diagram illustrating a 1D lattice structure with a defect at the center. The lattice is divided into two halves: Left and Right. A dashed vertical line marks the Defect. An upward arrow points to the center. Below the lattice, a sequence of operations is shown: a downward arrow, a rightward arrow, and a multiplication sign, followed by groups of four boxes representing qubits.



A horizontal dashed line represents a 1D lattice. Above the line, an upward-pointing arrow is positioned above the center. Below the line, a downward-pointing arrow is positioned at the left end. The lattice is divided into three sections by the center arrow. The left section contains a right-pointing arrow followed by four squares. The center section contains a multiplication sign followed by four squares. The right section contains two groups of four squares each, separated by a space.

□□□□□□□□	□□□□□□□□								
□□□□□□ □□□□	□□	□□	□□□□□□□□	□□ □	□□□□□□□□□	□□ □□	□□ □□	□□□ □□	□□□□
□□□□□□□□□□□□		18	□□□□□□□□□□□□□□	↓		3			22□ 4□
		18	□□□□□□□□	↓		1			20□ 4□
		18	□□□□□□□□□□	↓		1			20□ 4□
		18	□□□□□□□□□□□□□□□□	↓		1			20□ 4□
		18	□□□□□□□□□□□□	↓		1			20□ 4□
		18	□□□□□□□□□□□□□□□□	→		□			
		18	□□□□□□□□□□□□□	↓		1			20□ 4□
		18	□□□□□□	→		3			
□□□□□□□□□□□□		18	□□□□□□□□	↓		5			24□ 4□
		18	□□□□□□□□□□	↓		1			20□ 4□
		18	□□□□□□□□□□□□	↓		1			20□ 4□
		18	□□□□□□□□□□□□□□□□□□□□□□□□	↓		5			24□ 4□
		18	□□□□□□□□□□	↓		5			24□ 4□
		18	□□□□□□□□	↓		1			20□ 4□
	□	16□	□□□□□□□□□□□□□□	→		5			
	□	15□	□□□□□□□□□□□□□□	→		5			
		18	□□□□□□□□□□□□□□□□	↓		□			
	□	18	□□□□□□□□□□	→		□			
		18	□□□□□□□□□□□□□□□□□□□□	↓		1			20□ 4□
		18	□□□□□□□□□□□□□□□□	↓		□			

A diagram of a 1D lattice with 10 sites. An arrow points to the 6th site from the left, which is the central site.

Page 10

17

10/10

11

[illegible]

A horizontal row of 10 small squares, each containing a single dot, representing lattice sites. Above the row, an upward-pointing arrow is positioned above the 6th square from the left. The number '6' is written below the 6th square.

A horizontal dashed line represents a 1D lattice. Above the line, an upward-pointing arrow is positioned above the center. Below the line, a downward-pointing arrow is positioned at the left end. The lattice is divided into three sections by the center arrow. The left section contains a right-pointing arrow followed by four squares. The center section contains a multiplication sign followed by four squares. The right section contains four squares. All squares are empty.

□□ 18 □□ □□□□□□

□□□□□□

15

□□□

□□

□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □									
□ □ □ □ □ □ □ □	□ □	□ □	□ □ □ □ □ □ □ □	□ □ □	□ □ □ □ □ □ □ □	□ □ □ □	□ □ □ □	□ □ □ □ □	□ □ □ □	
□ □ □ □ □ □ □ □		18	□ □ □ □ □ □ □ □ □ □	↓		3			22□ 4□	
		18	□ □ □ □ □ □	↓		1			20□ 4□	
		18	□ □ □ □ □ □ □ □ □ □ □ □	↓		5			24□ 4□	
		18	□ □ □	↓		5			24□ 4□	
		18	□ □ □ □ □ □ □ □ □ □ □ □	↓		1			20□ 4□	
		18	□ □ □ □ □ □ □ □ □ □	↓		1			20□ 4□	
		18	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	↓		1			20□ 4□	
	□	17□	□ □ □ □ □ □ □ □ □ □ □ □	→		5				
	□	18□	□ □ □ □ □ □ □ □ □ □ □ □ □ □	→		1				
		18	□ □ □ □ □	↓		1			20□ 4□	
		18	□ □ □ □ □	↓		1			20□ 4□	
		18	□ □ □ □ □	↓		1			20□ 4□	
	□	12□	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	→		3				
	□	12□	□ □ □ □	→		1				
	□	16□	□ □ □ □ □ □ □ □ □ □ □ □ □ □	→		1				
	□	16□	□ □ □ □ □ □ □ □ □ □	→		3				
		18	□ □ □ □ □ □ □ □ □ □ □ □	↓		1			20□ 4□	
		17□ 18	□ □ □ □ □ □ □ □ □ □ □ □	↓		1			20□ 4□	
	□	15□	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	→		3				

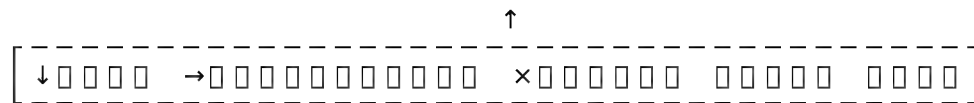
↑

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The diagram shows a 16-bit register represented by a horizontal dashed line. Above the register, an upward-pointing arrow indicates an 8-bit carry-in. Inside the register, the first 8 bits are labeled with a downward arrow and contain the value 0000. This is followed by an 8-bit ALU result, shown as 00000000, with a multiplication symbol (×) to its left. The final 8 bits of the register contain the value 00000000.



↑

↓ □ □ □ □ → □ □ □ □ □ □ □ □ □ □ × □ □ □ □ □ □ □ □ □ □ □ □ □ □

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↓ □ □ □ □ → □ □ □ □ □ □ □ □ □ □ × □ □ □ □ □ □ □ □ □ □ □ □ □ □

18

15

15

15

15

□ □ □ □ □ □ □ □					□ □ □ □ □												
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					□	17□	□ □ □ □ □ □ □ □ □ □			→				□			
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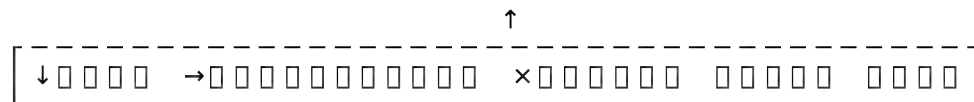
Diagram illustrating a 16-bit register structure with four 4-bit sections. The sections are separated by vertical dashed lines. The first section has a downward arrow and contains four squares. The second section has a rightward arrow and contains eight squares. The third section has an upward arrow and contains four squares. The fourth section contains four squares. The sections are labeled with a multiplier 'x' between the second and third sections.

The diagram shows a 16-bit register represented by a horizontal bar with a dashed line. Above the bar, an upward arrow points to the 8th bit position, indicating the carry-in. Inside the bar, the first 8 bits are labeled with a downward arrow and contain the value 0000. The next 8 bits are labeled with a rightward arrow and contain the value 00000000. The final 8 bits are labeled with a multiplication symbol (×) and contain the value 00000000. The last 4 bits of the register are labeled with a rightward arrow and contain the value 0000.

18

16

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		18		→		1			
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A diagram of a 16-bit register. The register is represented as a horizontal bar divided into several sections. From left to right: a 4-bit field labeled 'Instruction type' with a downward arrow; a 4-bit field labeled 'Register' with a rightward arrow; a 4-bit field labeled 'Register' with a rightward arrow; a 4-bit field labeled 'Constant' with a rightward arrow; a 4-bit field labeled 'Constant' with a rightward arrow; a 4-bit field labeled 'Constant' with a rightward arrow; a 4-bit field labeled 'Constant' with a rightward arrow; and a 4-bit field labeled 'Constant' with a rightward arrow. An upward arrow points to the boundary between the third and fourth 4-bit fields.

18

17

			10			→		1	
			11			→		5	
			18	8		↓		3	22 4
			18			↓		1	20 4
			18			↓		1	20 4
			18			↓		3	22 4
			17			→		5	
			17			→		1	
			9			→		1	
			18			↓		1	20 4
			18	8		↓		1	20 4
			18	18		↓		1	20 4
			13			→		1	
			9			→		1	
			12			→		1	
			13			→		1	
			14			→		3	
			14			→		1	
			18			↓		1	20 4



The diagram shows a 16-bit register represented as a horizontal bar divided into four sections. From left to right: a 4-bit field labeled 'Instruction type' with a downward arrow; an 8-bit field labeled 'Register index' with a rightward arrow; a 4-bit field labeled 'Immediate value' with a multiplication symbol; and a 4-bit field labeled 'Immediate value' with a multiplication symbol. An upward arrow points to the center of the register bar.

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17

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	10			→	1			
	16			→	1			
	11			→	1			
	16			→	1			
	13			→	1			
	13			→	1			
	18			→	1			
	18			↓	1			20 4
	18			↓	1			20 4
	18			↓	1			20 4
	18			↓	1			20 4
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	18			↓	3			22 4
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	□	9□	□ □ □ □ □ □ □ □ □ □ □ □ □ □		→		1		
	□	9□	□ □ □ □ □ □ □ □ □ □ □ □ □ □		→		1		
	□	16□	□ □ □ □ □ □ □ □		→		1		
		18	□ □ □ □ 8□ □ □ □ □ □ □ □		↓		5	8	24□ 4□
		18	□ □ □ □ 8□ □ □ □ □ □ □ □		↓		5	8	24□ 4□
		18	□ □ □ □ □ □ □ □		↓		10		29□ 4□
		18	□ □ □ □ □ □ □ □		↓		5		24□ 4□
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	□	14□	□ □ □ □ □		→		1		
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